

Claims:

1. A broadband multimedia telecommunications system, comprising:

a) a local switch having a trunk interface coupled to an optical network and a line interface coupled to a digital subscriber line, said local switch receiving a first plurality of audio/video channels via the optical network; and

b) customer premises equipment coupled to the digital subscriber line and to an audio/video output device, said customer premises equipment including channel selection means for selecting a channel from said first plurality of channels for transmission from said local switch to said customer premises equipment, wherein

said channel selection means includes means for sending a message to said local switch, said message identifying a selected channel,

said local switch includes message receiving means for receiving said message and channel transmission means for transmitting the selected channel to said customer premises equipment, and

channels not selected by said channel selection means are not transmitted to said customer premises equipment.

2. A system according to claim 1, wherein:

said channel transmission means is capable of transmitting up to four different channels simultaneously to said customer premises equipment.

3. A system according to claim 1, wherein:

said trunk interface accommodates up to four OC-3 ports or one OC-12 port.

4. A system according to claim 3, wherein:

said line interface accommodates up to one hundred sixty digital subscriber lines.

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5. A system according to claim 1, wherein:

said local switch further includes a system controller coupled to said trunk interface and said line interface,

said line interface includes a second plurality of line cards, each line card being coupled to a third plurality of digital subscriber lines,

said customer premises equipment includes a third plurality of customer premises equipment, one coupled to each digital subscriber line,

said message receiving means includes a second plurality of message receiving means, one on each line card,

said channel transmission means includes a second plurality of channel transmission means, one on each line card, and

said system controller is responsive to said line cards for routing one or more of said first plurality of channels to said line cards.

6. A system according to claim 5, wherein:

when a message is received by one of said message receiving means on one of said line cards from one of said customer premises equipment, the channel transmission means on the same line card determines whether the channel selected by the message is already being transmitted to another customer premises equipment coupled to the same line card,

if the channel selected by the message is already being transmitted to another customer premises equipment coupled to the same line card said channel transmission means duplicates the channel selected by the message for transmission to the one of said customer premises equipment, and

if the channel selected by the message is not already being transmitted to another customer premises equipment coupled to the same line card the line card causes the channel selected by the message to be routed to the line card.

7. A system according to claim 1, wherein:

the optical network is coupled to the internet,

said customer premises equipment includes PC coupling means for coupling it to a personal computer, and

the digital subscriber line carries internet data traffic.

8. A system according to claim 7, wherein:

the digital subscriber line is coupled to a POTS line, and
said customer premises equipment includes means for splitting
out the POTS line.

9. A system according to claim 7, wherein:

the digital subscriber line carries digital voice telephony,
and

said customer premises equipment includes telephone coupling
means for coupling it to a telephone set.

10. A system according to claim 1, wherein:

said local switch and said customer premises equipment are
remotely configurable via SNMP commands.

11. A method for broadband multimedia telecommunications, comprising:

- a) coupling a local switch to an optical network and to a digital subscriber line, the optical network carrying a first plurality of audio/video channels;
- b) coupling customer premises equipment to the digital subscriber line and to an audio/video output device, the customer premises equipment including channel selection means for selecting a channel from the first plurality of channels for transmission from the local switch to the customer premises equipment;
- c) sending a message from the channel selection means to the local switch identifying a selected channel;
- d) receiving the message at the local switch; and
- e) transmitting the selected channel to the customer premises equipment.

12. A method according to claim 11, wherein:

said step of transmitting includes transmitting up to four different channels simultaneously to said customer premises equipment.

13. A method according to claim 11, wherein:

said step of coupling the local switch to an optical network includes coupling it to up to four OC-3 ports or one OC-12 port.

14. A method according to claim 13, wherein:

said step of coupling the local switch to a digital subscriber line includes coupling it to up to one hundred sixty digital subscriber lines.

15. A method according to claim 11, wherein:

said step of coupling the local switch to a digital subscriber line includes coupling it to a plurality of digital subscriber lines via a single line card,

said step of coupling customer premises equipment to the digital subscriber line includes coupling customer premises equipment to each of the plurality of digital subscriber lines.

16. A method according to claim 15, wherein:

said step of transmitting the selected channel to the customer premises equipment includes determining whether the channel selected by the message is already being transmitted to another customer premises equipment coupled to the same line card,

if the channel selected by the message is already being transmitted to another customer premises equipment coupled to the same line card, duplicating the channel selected by the message for transmission to the customer premises equipment.

17. A method according to claim 11, further comprising:

- f) coupling the optical network to the internet; and
- g) coupling the customer premises equipment to a personal computer.

18. A method according to claim 17, further comprising:

- h) coupling the digital subscriber line to a POTS line, and
- i) splitting out the POTS line at the customer premises equipment.

19. A method according to claim 17, further comprising:

- h) coupling the customer premises equipment to a telephone set.

20. A method according to claim 11, further comprising:

- f) configuring the local switch and the customer premises equipment remotely via SNMP commands.